

Claims.

We claim:

1. A refractory comprising 0.9% to 2.5% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
- 5 2. The refractory of claim 1, comprising 0.9% to 2.0% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
3. The refractory of claim 2, comprising 0.95% to 1.85% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up
10 to 0.25% TiO_2 .
4. The refractory of claims 1 to 3, comprising 0.9% to 2.5% Al_2O_3 , 4.4% to 8.8% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
5. The refractory of claim 4, comprising 0.9% to 2.5% Al_2O_3 , 6% to 8% SiO_2 , 86% to 95%
15 ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
6. The refractory of claims 1 to 5, comprising 0.9% to 2.5% Al_2O_3 , 4.4% to 8.8% SiO_2 , 88% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
- 20 7. The refractory of claim 6, comprising 0.9% to 2.5% Al_2O_3 , 4.0% to 10.0% SiO_2 , 89.3% to 93.6% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
8. The refractory of claims 1 to 7, comprising 0.9% to 2.5% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.3% to 0.9% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO , up to 0.1% FeO_3
25 and up to 0.25% TiO_2 .
9. The refractory of claims 1 to 8, consisting essentially of 0.9% to 2.5% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.4% CaO , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
10. The refractory of claims 1 to 8, consisting essentially of 0.9% to 2.5% Al_2O_3 , 4.0% to
30 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.1% FeO_3 and up to 0.25% TiO_2 .
11. The refractory of claims 1 to 8, consisting essentially of 0.9% to 2.5% Al_2O_3 , 4.0% to 10.0% SiO_2 , 86% to 95% ZrO_2 , 0.1% to 1.2% B_2O_3 , up to 0.04% Na_2O , up to 0.4% CaO and up to 0.25% TiO_2 .
- 35 12. The refractory of claims 1 to 8, consisting essentially of 0.9% to 2.5% Al_2O_3 , 4.0% to

10.0% SiO₂, 86% to 95% ZrO₂, 0.1% to 1.2% B₂O₃, up to 0.04% Na₂O, up to 0.4% CaO, up to 0.1% FeO₃ and up to 0.25% TiO₂.

13. The refractory of claim 1, consisting essentially of 0.95% to 1.85% Al₂O₃, 4.4% to 8.8% SiO₂, 89.3% to 93.6% ZrO₂, 0.3% to 0.9% B₂O₃, up to 0.04% Na₂O, up to 0.4% CaO, up to 0.1% FeO₃ and up to 0.25% TiO₂.

14. The refractory of claim 1, wherein the refractory has an electrical resistance of at least 80 ohm-cm at 1625°C.

15. The refractory of claim 1, wherein the refractory has an electrical resistance of at least 100 ohm-cm at 1625°C.

16. The refractory of claim 1, wherein the refractory has an electrical resistance of at least 130 ohm-cm at 1625°C.

17. The refractory of claim 1, wherein the refractory has an electrical resistance of at least 250 ohm-cm at 1625°C.

18. The refractory of claim 1, wherein the refractory has an electrical resistance of at least 300 ohm-cm at 1625°C.

19. A refractory comprising 0.95% to 1.85% Al₂O₃, 4.4% to 8.8% SiO₂, 89.3% to 93.6% ZrO₂, 0.3% to 0.9% B₂O₃, up to 0.04% Na₂O, up to 0.4% CaO, up to 0.1% FeO₃ and up to 0.25% TiO₂.

20. The refractory of claim 19, consisting essentially of 0.96% to 1.1% Al₂O₃, 6.6% to 8.8% SiO₂, 89.3% to 91.2% ZrO₂, 0.6% to 0.9% B₂O₃, up to 0.02% Na₂O, up to 0.1% CaO, up to 0.1% FeO₃ and up to 0.1% TiO₂.

21. The refractory of claim 20, consisting essentially of 0.96% to 1.1% Al₂O₃, 6.6% to 8.8% SiO₂, 89.3% to 91.2% ZrO₂, 0.6% to 0.9% B₂O₃, up to 0.1% CaO, up to 0.1% FeO₃ and up to 0.1% TiO₂.

22. The refractory of claim 19, wherein the refractory has an electrical resistance of at least 80 ohm-cm at 1625°C.

23. The refractory of claim 19, wherein the refractory has an electrical resistance of at least 100 ohm-cm at 1625°C.

24. The refractory of claim 19, wherein the refractory has an electrical resistance of at least 130 ohm-cm at 1625°C.

25. The refractory of claim 19, wherein the refractory has an electrical resistance of at least 250 ohm-cm at 1625°C.

26. The refractory of claim 21, wherein the refractory has an electrical resistance of at least 300 ohm-cm at 1625°C.